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Determn. of fibrinolysis in blood plasma - by turbidimetric or colorimetric method, can assess thrombosis risk

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The fibrinolytic state of blood plasma is determined by either:

(a) adding fibrin, or generating it in situ, in an amt. sufficient to cause turbidity and measuring the turbidity or the resulting fibrin cleavage prod.; or

(b) adding a chromogenic plasmin substrate together with fibrin, fibrinogen cleavage prods. or a fibrin-generating enzyme in an amt. insufficient to cause turbidity and measuring the colour.

USE

The test is useful for assessing risk of thrombosis.

ADVANTAGE

The method is rapid, reliably reflects the fibrinolytic state in vivo, is readily automated and can be evaluated photometrically.

MORE SPECIFICALLY

A plasminogen activator, esp. EPA, urokinase or streptokinase, may also be added.

Fibrin may be generated in situ by adding thrombin or a thrombin-like enzyme, e.g. batroxobin or arvin.

Fibrinogen cleavage prods. obtained by treating fibrinogen with CNBr may be used.

The chromogenic plasmin substrate is esp. Tos-Gly-Pro-Lys -p-nitroaniline.

ALSO CLAIMED

Reagents for determining the fibrinolytic state of plasma comprising:

(a) a plasminogen activator, thrombin or a thrombin-like enzyme, and a buffer, or

(b) a plasminogen activator and fibrinogen cleavage prods. or fibrin monomer.

The reagent may also contain polyethylene glycol, a nonionic surfactant and/or bovine serum albumin.

EXAMPLE

A plasma sample (0.05 ml) is mixed at 25° C with 1 ml of

a reagent comprising 0.1M Tris-HCl (pH 7.5), 2% PEG 6000, 0.1% Tween 80, 1% BSA, 0.02 U/ml batroxobin and 0.01-10 ng/ml EPA. A photometer is used to record the change in extinction at 334 nm.

The time taken to reach the turbidity max., or the time from the start of the max. to a 100 mU drop in extinction, is compared with a calibration curve.(17pp367DAHDwgNo0/1).